

NO. 1: POWER LAWNMOWERS (REVISED SPRING, 1988)

Even though millions of homeowners routinely use power lawnmowers every year without mishap, there is still a fairly constant parade of people into hospital emergency rooms with injuries from walk-behind power mowers. Most often, patients are treated for minor injuries and released. However, emergency surgery is sometimes required to treat severe injuries resulting from hand or foot contact with the rotating blade, toe amputations are not uncommon with homeowners cutting grass. In 1986, some 37,000 people were treated in hospital emergency rooms for mower injuries, according to recent estimates by the U.S. Consumer Product Safety Commission.

Ever since the Commission's founding in 1973, walk-behind power rotary lawnmowers have been the subject of ongoing research by engineering, human factors, economists and epidemiological personnel. Their efforts were instrumental in developing the federal safety standard for power mowers which took effect June 30, 1982. All walk-behind power rotary lawnmowers manufactured since then must meet new safety requirements designed to reduce hand and foot contact with the moving blade.

For example, with most rotary mowers built before June 1982, the blade rotated as long as the engine was operating. Problems arose when wet grass clippings jammed the discharge chute. In

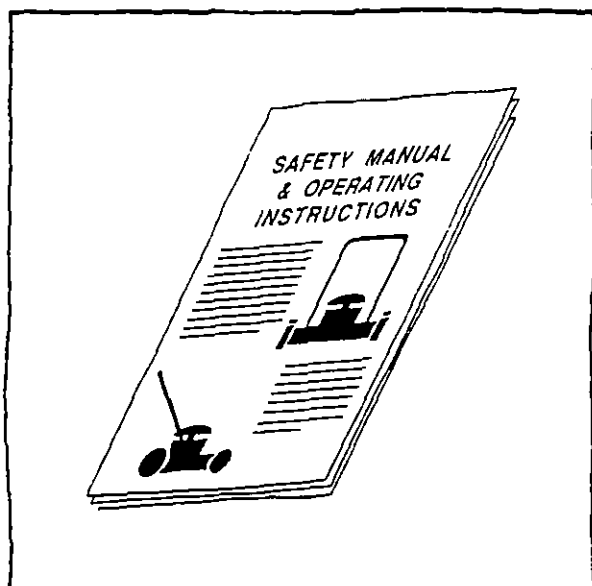
these situations, the owner's manual emphasized that the engine should be shut down first, and that the blade should be allowed to come to a complete stop before the user reached into the discharge chute to remove the clippings.

To avoid having to re-start the engine, users frequently allowed the motor to operate while they tried to remove the clippings with their hand. Many homeowners had fingers amputated by the rotating blade, others were more fortunate and only sustained severe lacerations.

THE CPSC STANDARD

If you purchase a new walk-behind rotary lawnmower, the machine must meet the June 30, 1982 federal standard, and must be certified as complying with the regulation. Some of the safety features of the regulation include:

- **The blade brake control.** On all new mowers, an automatic brake stops the blade in three seconds when the operator releases his/her grip on the handle-mounted control bar. This feature prevents the rotary blade from operating unless the operator actuates the control. It also requires the operator to maintain continuous contact with the control to keep the blade operating, and stops the blade completely within three seconds when the operator releases the control. If the mower only has a manual start, the control must stop the blade without shutting down the engine, unless the manual starting control is located within 24 inches from the top of the handle, or the mower has a 360 degree foot shield. For user protection, the mower must also have a secondary control which must be activated before the mower can be operated.
- **Foot shield.** The area at the rear of the mower that might be reached by the foot when using the mower is subjected to a probing test using a foot-like probe. With the mower wheels on the ground, this area is probed to assure that neither the foot probe nor any part of the mower (such as a trailing shield) will enter the path of the blade. Shields at this rear area are also subjected to a strength test and an obstruction test.



Shields at the rear of the mower which must be moved to attach the grass catcher or other equipment are also examined. These shields must either close automatically or prevent operation of the mower (when open) unless the grass catcher is present.

- **Labels.** New mowers must have a warning label near the discharge chute cautioning users to keep hands and feet away from the chute. The mower must also have a certification label with the inscription, "Meets CPSC blade safety requirements"

MEETS CPSC BLADE SAFETY REQUIREMENTS

SELECTING A MOWER

If you are shopping for a walk-behind rotary lawnmower, consider the following factors which may affect mowing operations

- Who will be using the machine most of the time? Will they tire quickly if they have to push the mower all the while or would a better choice be a self-propelled mower?
- Does the mower have deflectors at the discharge chute that force objects thrown from it to be ejected toward the ground rather than upward in the air?
- Does the mower start easily? Ignition systems have been improved to simplify manual starting of the mower
- Is it easy to operate? Are controls within easy reach? Is the handle adjustable so others can use the mower without difficulty?
- Do you want to vary the cutting height of the grass during the growing season? Manufacturers use several methods to adjust the cutting height, including wheel levers and bolted wheels. Consider the ease with which you can adjust the cutting height when shopping for a mower.
- Consider your preferences for lawn care. If you don't bag grass clippings as you cut the lawn, then you will likely find the "engine kill" mower quite acceptable. With this machine, the engine will shut down and the rotary blade will stop within three seconds after you release your grip on the operator controls. With this "engine kill" mower, the

pull-rope starter must be located within 24 inches of the top handle, or the protective foot shield must surround the entire mower housing.

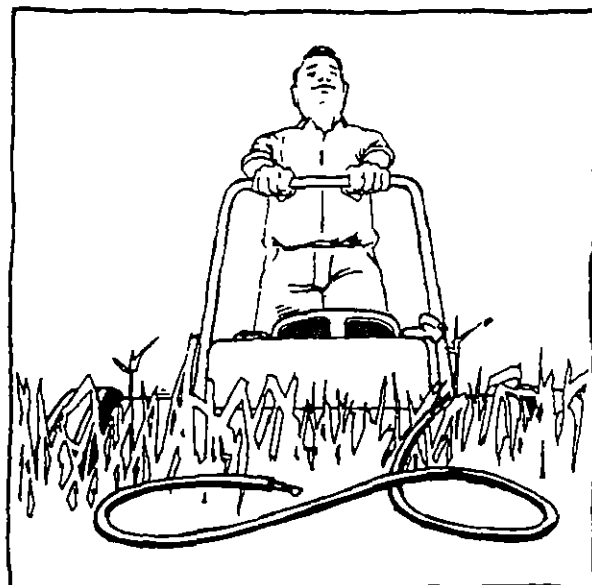
If you use a grass catcher to bag lawn clippings, then the mower which features the blade brake clutch should be considered. With this mower, the rotary blade stops within three seconds after you release the operator control bar, but the engine continues to operate. This allows you to empty the grass catcher frequently (the blade being stopped) without having to turn off the engine. When the catcher is returned in place, you simply engage the operator control to resume cutting grass. On these mowers, the starter cord may be found on top of the engine housing

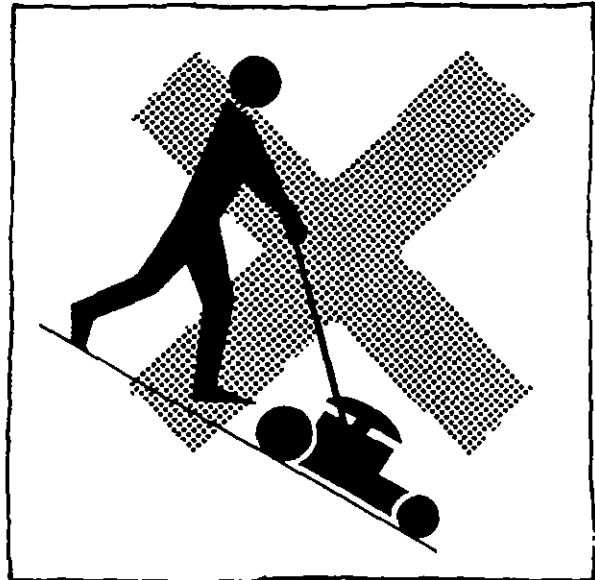
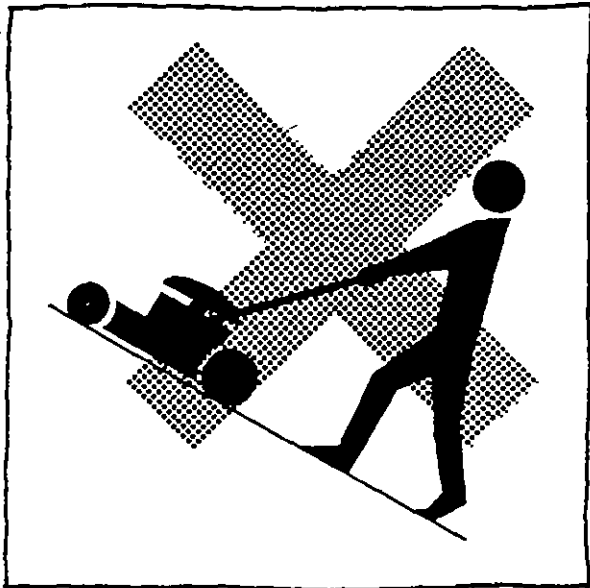
- Can you do some mower maintenance yourself or is the machine so complex that it must be returned to the mower shop for routine maintenance and repairs?

USING THE WALK-BEHIND ROTARY MOWER

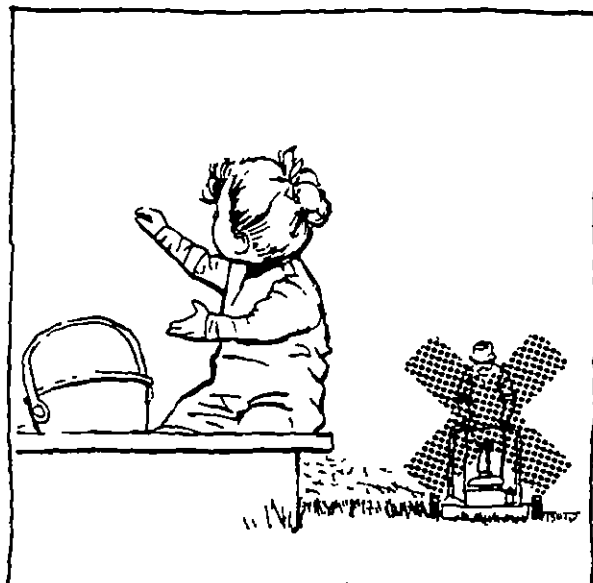
CPSC offers these suggestions for the safe use of rotary lawnmowers

- Fill the fuel tank **before** starting the engine to cut the lawn. Never refuel the mower when it is running or while the engine is hot
- Check the lawn for debris (twigs, rocks and other objects) **before** mowing the lawn. Objects have been struck by the mower blade and thrown out from under the mower, resulting in severe injuries and deaths





- Don't cut the grass when it's wet. Wet clippings will probably clog the discharge chute, ultimately could jam the rotary blade and shut down the engine. When you need to remove clippings from the chute, the rotary blade must be stopped
- Wear sturdy shoes with sure-grip soles when using the mower, never sneakers, sandals or with bare feet. Slacks rather than shorts offer better protection for the legs
- Never allow young children to operate a power lawnmower
- Children should not be allowed on or near the lawn when the rotary mower is in use.
- Push the mower forward, never pull it backward.



- If the lawn slopes, mow across the slope with the walk-behind rotary mower, never up and down. With a riding mower, drive up and down the slope, not across it.
- Don't remove any safety devices on the mower. Remember that the safety features were installed to help protect you against injury. Check safety features often and repair or replace if needed
- With an electric mower, organize your work so you first cut the area nearest the electrical outlet, then gradually move away. This will minimize chances of your running over the power cord and being electrocuted
- Read the owner's manual to become familiar with the workings of the machine. Keep the manual in a safe place so it will be handy when you need it the next time

Check the manual for hints on performing routine maintenance, checking engine oil levels and fluid in powered wheel drives, and performing maintenance when the mower is stored during the off-season

OLDER WALK-BEHIND ROTARY MOWERS

If you cut grass with a pre-standard rotary mower, use extreme caution. Remember that the machine does not have the safety features of the new equipment, and that the problems that prompted the federal standard in the first place will still be found on your machine. For example,

- If clippings jam the discharge chute, first shut off the engine. The blade must come to a complete stop before you attempt to clear the jam. If you try to clear the chute while the blade rotates, your fingers could be amputated.
- Push the mower forward, never pull it backward
- If you want to adjust the cutting height on any machine, do so before starting the engine. The blade should always be stationary
- Shut down the engine if you leave the operator position for any reason. If you wish to disable the mower so no one can use it, simply remove the ignition wire from the spark plug or remove the spark plug



To report a product hazard or a product-related injury, write to the U.S. Consumer Product Safety Commission, Washington, D.C. 20207. In the continental U.S. as well as Alaska, Hawaii, Puerto Rico and the Virgin Islands, call the toll-free hotline: 800-638-CPSC. A teletype for the deaf is available from 8:30 a.m. to 5:00 p.m. EST for people who call the hotline on the following numbers: National (including Alaska and Hawaii) 800-638-8270. Maryland residents only 888-492-8104.

This document is in the public domain. It may be reproduced in part or in whole by an individual or organization without permission. If it is reproduced, however, the Commission would appreciate knowing how it is used. Write to the U.S. Consumer Product Safety Commission, Office of Information & Public Affairs, Washington, D.C. 20207.

PRODUCT SAFETY, IT'S NO ACCIDENT.

